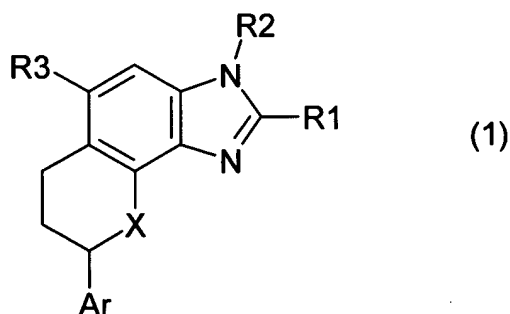




Appendix A

Claim Amendments

1. (Previously presented) A compound of formula 1,



in which

- R1 is hydrogen, halogen, hydroxyl, 1-4C-alkyl, 3-7C-cycloalkyl, 3-7C-cycloalkyl-1-4C-alkyl, 1-4C-alkoxy, 1-4C-alkoxy-1-4C-alkyl, 1-4C-alkoxycarbonyl, 2-4C-alkenyl, 2-4C-alkynyl, fluoro-1-4C-alkyl, hydroxy-1-4C-alkyl or mono- or di-1-4C-alkylamino,
- R2 is hydrogen, 1-4C-alkyl, 1-4C-alkoxy, 1-4C-alkoxy-1-4C-alkyl, aryl, 3-7C-cycloalkyl, 3-7C-cycloalkyl-1-4C-alkyl, 1-4C-alkoxycarbonyl, mono- or di-1-4C-alkylamino-1-4C-alkylcarbonyl, hydroxy-1-4C-alkyl, fluoro-2-4C-alkyl,
- R3 is hydrogen, halogen, fluoro-1-4C-alkyl, carboxyl, 1-4C-alkoxycarbonyl, hydroxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-

alkyl, 1-4C-alkoxy-1-4C-alkoxy-1-4C-alkyl, fluoro-1-4C-alkoxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkoxy, 1-4C-alkylcarbonylamino, 1-4C-alkylcarbonyl-N-1-4C-alkylamino, 1-4C-alkoxy-1-4C-alkylcarbonylamino or the group -CO-NR³¹R³²,

where

R³¹ is hydrogen, hydroxyl, 1-7C-alkyl, 3-7C-cycloalkyl, hydroxy-1-4C-alkyl or 1-4C-alkoxy-1-4C-alkyl and

R³² is hydrogen, 1-7C-alkyl, 3-7C-cycloalkyl, hydroxy-1-4C-alkyl or 1-4C-alkoxy-1-4C-alkyl,

or where

R³¹ and R³² together, including the nitrogen atom to which both are bonded, are a pyrrolidino, hydroxy-pyrrolidino, aziridino, azetidino, piperidino, piperazino, N-1-4C-alkylpiperazino or morpholino group,

X is O (oxygen) or NH and

Ar is a mono- or bicyclic aromatic residue, substituted by R⁴, R⁵, R⁶ and R⁷, which is selected from the group consisting of phenyl, naphthyl, pyrrolyl, pyrazolyl, imidazolyl, 1,2,3-triazolyl, indolyl, benzimidazolyl, furyl, benzofuryl, thienyl, benzothienyl, thiazolyl, isoxazolyl, pyridinyl, pyrimidinyl, chinolinyl and isochinolinyl,

wherein

R4 is hydrogen, 1-4C-alkyl, hydroxy-1-4C-alkyl, 1-4C-alkoxy, 2-4C-alkenyloxy, 1-4C-alkylcarbonyl, carboxy, 1-4C-alkoxycarbonyl, carboxy-1-4C-alkyl, 1-4C-alkoxycarbonyl-1-4C-alkyl, halogen, hydroxy, aryl, aryl-1-4C-alkyl, aryl-oxy, aryl-1-4C-alkoxy, trifluoromethyl, nitro, amino, mono- or di-1-4C-alkylamino, 1-4C-alkylcarbonylamino, 1-4C-alkoxycarbonylamino, 1-4C-alkoxy-1-4C-alkoxycarbonylamino or sulfonyl,

R5 is hydrogen, 1-4C-alkyl, 1-4C-alkoxy, 1-4C-alkoxycarbonyl, halogen, trifluoromethyl or hydroxy,

R6 is hydrogen, 1-4C-alkyl or halogen and

R7 is hydrogen, 1-4C-alkyl or halogen,

and wherein

aryl is phenyl or substituted phenyl with one, two or three same or different substituents from the group of 1-4C-alkyl, 1-4C-alkoxy, carboxy, 1-4C-alkoxycarbonyl, halogen, trifluoromethyl, nitro, trifluoromethoxy, hydroxy and cyano,

or a hydrate, solvate, salt, hydrate of a salt or solvate of a salt thereof.

2. (Previously presented) A compound of formula 1 according to claim 1,

in which

R1 is hydrogen, halogen, hydroxyl, 1-4C-alkyl, 3-7C-cycloalkyl, 3-7C-cycloalkyl-1-4C-alkyl, 1-4C-alkoxy, 1-4C-alkoxy-1-4C-alkyl, 1-4C-alkoxycarbonyl, 2-4C-alkenyl, 2-4C-alkynyl, fluoro-1-4C-alkyl, hydroxy-1-4C-alkyl or mono- or di-1-4C-alkylamino,

R2 is hydrogen, 1-4C-alkyl, 1-4C-alkoxy, 1-4C-alkoxy-1-4C-alkyl, aryl, 3-7C-cycloalkyl, 3-7C-cycloalkyl-1-4C-alkyl, 1-4C-alkoxycarbonyl, mono- or di-1-4C-alkylamino-1-4C-alkylcarbonyl, hydroxy-1-4C-alkyl, fluoro-2-4C-alkyl,

R3 is hydrogen, halogen, fluoro-1-4C-alkyl, carboxyl, 1-4C-alkoxycarbonyl, hydroxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkoxy-1-4C-alkyl, fluoro-1-4C-alkoxy-1-4C-alkyl or the group -CO-NR₃₁R₃₂,

where

R31 is hydrogen, hydroxyl, 1-7C-alkyl, hydroxy-1-4C-alkyl or 1-4C-alkoxy-1-4C-alkyl and

R32 is hydrogen, 1-7C-alkyl, hydroxy-1-4C-alkyl or 1-4C-alkoxy-1-4C-alkyl,

or where

R31 and R32 together, including the nitrogen atom to which both are bonded, are a pyrrolidino, piperidino, piperazino, N-1-4C-alkylpiperazino or morpholino group,
X is O (oxygen) or NH and

Ar is a mono- or bicyclic aromatic residue, substituted by R4, R5, R6 and R7, which is selected from the group consisting of phenyl, naphthyl, pyrrolyl, pyrazolyl, imidazolyl, 1,2,3-triazolyl, indolyl, benzimidazolyl, furyl, benzofuryl, thienyl, benzothienyl, thiazolyl, isoxazolyl, pyridinyl, pyrimidinyl, chinolinyl and isochinolinyl,

wherein

R4 is hydrogen, 1-4C-alkyl, hydroxy-1-4C-alkyl, 1-4C-alkoxy, 2-4C-alkenyloxy, 1-4C-alkylcarbonyl, carboxy, 1-4C-alkoxycarbonyl, carboxy-1-4C-alkyl, 1-4C-alkoxycarbonyl-1-4C-alkyl, halogen, hydroxy, aryl, aryl-1-4C-alkyl, aryl-oxy, aryl-1-4C-alkoxy, trifluoromethyl, nitro, amino, mono- or di-1-4C-alkylamino, 1-4C-alkylcarbonylamino, 1-4C-alkoxycarbonylamino, 1-4C-alkoxy-1-4C-alkoxycarbonylamino or sulfonyl,

R5 is hydrogen, 1-4C-alkyl, 1-4C-alkoxy, 1-4C-alkoxycarbonyl, halogen, trifluoromethyl or hydroxy,

R6 is hydrogen, 1-4C-alkyl or halogen and
R7 is hydrogen, 1-4C-alkyl or halogen,
and wherein
aryl is phenyl or substituted phenyl with one, two or
three same or different substituents from the group of
1-4C-alkyl, 1-4C-alkoxy, carboxy, 1-4C-alkoxycarbonyl,
halogen, trifluoromethyl, nitro, trifluoromethoxy,
hydroxy and cyano,
or a hydrate, solvate, salt, hydrate of a salt or solvate
of a salt thereof.

3. (Previously presented) A compound of formula 1 according
to claim 1,

in which

R1 is hydrogen, 1-4C-alkyl, 3-7C-cycloalkyl or fluoro-1-4C-
alkyl,

R2 is hydrogen, 1-4C-alkyl or 1-4C-alkoxy-1-4C-alkyl,

R3 is hydrogen, halogen, carboxyl, 1-4C-alkoxycarbonyl,
hydroxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkyl, 1-4C-alkoxy-
1-4C-alkoxy-1-4C-alkyl, 1-4C-alkylcarbonyl-N-1-4C-
alkylamino or the group -CO-NR₃₁R₃₂,
where

R31 is hydrogen, 1-4C-alkyl, 3-7C-cycloalkyl, hydroxy-1-4C-alkyl or 1-4C-alkoxy-1-4C-alkyl and

R32 is hydrogen or 1-4C-alkyl,

or where

R31 and R32 together, including the nitrogen atom to which both are bonded, are a pyrrolidino, hydroxypyrrolidino, aziridino, azetidino, piperidino, piperazino, N-1-4C-alkylpiperazino or morpholino group,

X is O (oxygen) or NH and

Ar is a phenyl group, substituted by R4, R5, R6 and R7, wherein

R4 is hydrogen, 1-4C-alkyl, hydroxy-1-4C-alkyl, 1-4C-alkoxy, 2-4C-alkenyloxy, 1-4C-alkylcarbonyl, carboxy, 1-4C-alkoxycarbonyl, carboxy-1-4C-alkyl, 1-4C-alkoxycarbonyl-1-4C-alkyl, halogen, hydroxy, trifluoromethyl, nitro, amino, mono- or di-1-4C-alkylamino, 1-4C-alkylcarbonylamino, 1-4C-alkoxycarbonylamino, 1-4C-alkoxy-1-4C-alkoxycarbonylamino or sulfonyl,

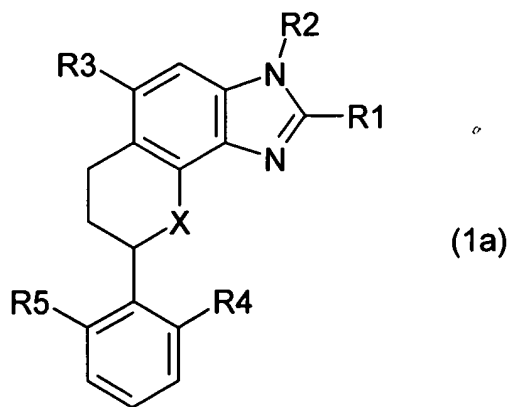
R5 is hydrogen, 1-4C-alkyl, 1-4C-alkoxy, 1-4C-alkoxycarbonyl, halogen, trifluoromethyl or hydroxy,

R6 is hydrogen, 1-4C-alkyl or halogen and

R7 is hydrogen, 1-4C-alkyl or halogen,

or a hydrate, solvate, salt, hydrate of a salt or solvate of a salt thereof.

4. (Previously presented) A compound according to claim 1, characterized by the formula 1a,



in which

R1 is hydrogen, 1-4C-alkyl, 3-7C-cycloalkyl or fluoro-1-4C-alkyl,

R2 is hydrogen, 1-4C-alkyl or 1-4C-alkoxy-1-4C-alkyl,

R3 is hydrogen, halogen, carboxyl, 1-4C-alkoxycarbonyl, hydroxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkoxy-1-4C-alkyl, 1-4C-alkylcarbonyl-N-1-4C-alkylamino or the group -CO-NR31R32,

where

R31 is hydrogen, 1-4C-alkyl, 3-7C-cycloalkyl, hydroxy-1-4C-alkyl or 1-4C-alkoxy-1-4C-alkyl and

R32 is hydrogen or 1-4C-alkyl,

or where

R31 and R32 together, including the nitrogen atom to which both are bonded, are a pyrrolidino, hydroxypyrrolidino, aziridino, azetidino, piperidino, piperazino, N-1-4C-alkylpiperazino or morpholino group,

R4 is hydrogen, 1-4C-alkyl, hydroxy-1-4C-alkyl, 1-4C-alkoxy, 1-4C-alkoxycarbonyl, trifluoromethyl, amino, mono- or di-1-4C-alkylamino, 1-4C-alkylcarbonylamino, 1-4C-alkoxycarbonylamino or 1-4C-alkoxy-1-4C-alkoxycarbonylamino,

R5 is hydrogen, 1-4C-alkyl or 1-4C-alkoxy and

X is O (oxygen) or NH,

or a hydrate, solvate, salt, hydrate of a salt or solvate of a salt thereof.

5. (Previously presented) A compound of formula 1a according to claim 4,

in which

R1 is 1-4C-alkyl, 3-7C-cycloalkyl or fluoro-1-4C-alkyl,

R2 is hydrogen, 1-4C-alkyl or 1-4C-alkoxy-1-4C-alkyl,

R3 is hydrogen, carboxyl, hydroxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkoxy-1-4C-alkyl, 1-4C-

alkylcarbonyl-N-1-4C-alkylamino or the group -CO-
NR₃₁R₃₂,

where

R₃₁ is hydrogen, 1-4C-alkyl, hydroxy-1-4C-alkyl or 1-4C-
alkoxy-1-4C-alkyl and

R₃₂ is hydrogen or 1-4C-alkyl,

or where

R₃₁ and R₃₂ together, including the nitrogen atom to
which both are bonded, are a pyrrolidino, aziridino,
azetidino or morpholino group,

R₄ is hydrogen,

R₅ is hydrogen and

X is O (oxygen) or NH,

or a hydrate, solvate, salt, hydrate of a salt or solvate
of a salt thereof.

6. (Previously presented) A compound of formula 1a

according to claim 4,

in which

R₁ is 1-4C-alkyl, 3-7C-cycloalkyl or fluoro-1-4C-alkyl,

R₂ is 1-4C-alkyl or 1-4C-alkoxy-1-4C-alkyl,

R₃ is carboxyl, 1-4C-alkoxycarbonyl, hydroxy-1-4C-alkyl, 1-
4C-alkoxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkoxy-1-4C-

alkyl, 1-4C-alkylcarbonyl-N-1-4C-alkylamino or the group
-CO-NR₃₁R₃₂,

where

R₃₁ is hydrogen, 1-4C-alkyl, hydroxy-1-4C-alkyl or 1-4C-
alkoxy-1-4C-alkyl and

R₃₂ is hydrogen or 1-4C-alkyl,

or where

R₃₁ and R₃₂ together, including the nitrogen atom to
which both are bonded, are a pyrrolidino,
hydroxypyrrolidino, aziridino, azetidino or morpholino
group,

R₄ is hydrogen,

R₅ is hydrogen and

X is O (oxygen) or NH,

or a hydrate, solvate, salt, hydrate of a salt or solvate
of a salt thereof.

7. (Previously presented) A compound of the formula 1a
according to claim 4,

in which

R₁ is 1-4C-alkyl,

R₂ is 1-4C-alkyl,

R3 is hydroxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkyl or the group -CO-NR₃₁R₃₂,
where
R₃₁ is hydrogen, 1-4C-alkyl, hydroxy-2-4C-alkyl or 1-4C-alkoxy-2-4C-alkyl and
R₃₂ is hydrogen,
or where
R₃₁ and R₃₂ together, including the nitrogen atom to which both are bonded, are a pyrrolidino group,
R₄ is hydrogen,
R₅ is hydrogen and
X is O (oxygen) or NH,
or a hydrate, solvate, salt, hydrate of a salt or solvate of a salt thereof.

8. (Previously presented) A compound of formula 1a according to claim 4,

in which

R₁ is 1-4C-alkyl or fluoro-1-4C-alkyl,
R₂ is 1-4C-alkyl or 1-4C-alkoxy-1-4C-alkyl,
R₃ is carboxyl, 1-4C-alkoxycarbonyl, hydroxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkoxy-1-4C-alkyl or the group -CO-NR₃₁R₃₂,

where

R31 is hydrogen, 1-4C-alkyl, hydroxy-2-4C-alkyl or 1-4C-alkoxy-2-4C-alkyl and

R32 is hydrogen or 1-4C-alkyl,

or where

R31 and R32 together, including the nitrogen atom to which both are bonded, are a pyrrolidino or morpholino group,

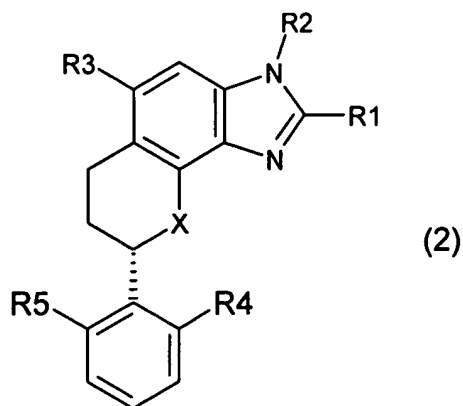
R4 is hydrogen,

R5 is hydrogen and

X is O (oxygen) or NH,

or a hydrate, solvate, salt, hydrate of a salt or solvate of a salt thereof.

9. (Previously presented) A compound according to claim 1, characterized by the formula 2,



in which

R1 is 1-4C-alkyl or 3-7C-cycloalkyl,

R2 is hydrogen or 1-4C-alkyl,

R3 is 1-4C-alkoxycarbonyl, hydroxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkyl or the group -CO-NR₃₁R₃₂,

where

R₃₁ is hydrogen, 1-4C-alkyl, hydroxy-1-4C-alkyl or 1-4C-alkoxy-1-4C-alkyl and

R₃₂ is hydrogen or 1-4C-alkyl,

or where

R₃₁ and R₃₂ together, including the nitrogen atom to which both are bonded, are a pyrrolidino, aziridino, azetidino or morpholino group,

R4 is hydrogen,

R5 is hydrogen and

X is O (oxygen) or NH,

or a hydrate, solvate, salt, hydrate of a salt or solvate of a salt thereof.

10. (Previously presented) A compound of formula 2 according to claim 9,

in which

R1 is 1-4C-alkyl, 3-7C-cycloalkyl or fluoro-1-4C-alkyl,
R2 is 1-4C-alkyl or 1-4C-alkoxy-1-4C-alkyl,
R3 is carboxyl, 1-4C-alkoxycarbonyl, hydroxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkoxy-1-4C-alkyl, 1-4C-alkylcarbonyl-N-1-4C-alkylamino or the group -CO-NR₃₁R₃₂,

where

R₃₁ is hydrogen, 1-4C-alkyl, hydroxy-1-4C-alkyl or 1-4C-alkoxy-1-4C-alkyl and

R₃₂ is hydrogen or 1-4C-alkyl,

or where

R₃₁ and R₃₂ together, including the nitrogen atom to which both are bonded, are a pyrrolidino, hydroxypyrrolidino, aziridino, azetidino or morpholino group,

R₄ is hydrogen,

R₅ is hydrogen and

X is O (oxygen) or NH,

or a hydrate, solvate, salt, hydrate of a salt or solvate of a salt thereof.

11. (Previously presented) A pharmaceutical composition comprising a compound as claimed in claim 1 and/or a

pharmacologically acceptable hydrate, solvate, salt, hydrate of a salt or solvate of a salt thereof together with a pharmaceutically acceptable auxiliary and/or excipient.

12. (Canceled)

13. (Previously presented) A method of preventing or treating a gastrointestinal disorder in a patient comprising administering to a patient in need thereof a therapeutically effective amount of a compound as claimed in claim 1 or a hydrate, solvate, salt, hydrate of a salt or solvate of a salt thereof.

14. (New) A compound of formula 1 according to claim 1 selected from the group consisting of

(8S)-2,3-dimethyl-8-phenyl-3,6,7,8-tetrahydro-chromeno[7,8-d]imidazole-5-carboxylic acid dimethylamide,

(8S)-2-methyl-8-phenyl-3,6,7,8-tetrahydro-chromeno[7,8-d]imidazole-5-carboxylic acid dimethylamide oxalate, and

(8S)-2,3-dimethyl-8-phenyl-3,6,7,8-tetrahydro-chromeno[7,8-d]imidazole-5-carboxylic acid methylamide.